Relationship Between Academic Pressure and High School Students' Self-Efficacy for Future Academic Performance

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Abstract

High school students always need to balance if they are able to complete their future academic tasks or not in their daily lives. However, these judgments may not always be accurate because students' self assessment may not reflect their actual abilities based on their subjective feelings. Psychological states such as academic pressure and relaxation may influence how students evaluate themselves: academic pressure is associated with stress, anxiety, and self-efficacy. Instead, relaxation can reduce stress and anxiety. Metacognitive research shows that students can be inaccurate when predicting their future academic performance under different mood or stress levels. This research examines how high academic pressure and relaxation may affect the accuracy of students' assessments of their capacity to handle future tasks. Existing research suggests that high academic pressure may be associated with attention, emotions, and cognitive resources, which could make accurate self-assessment be more difficult. In another way, relaxation may create a psychological state which allows students to identify their true abilities under less stress level. However, there is limited research directly examining how high academic pressure and relaxation affect the accuracy of high school students' predictions of their academic performance. The purpose of this narrative review is to examine existing research on academic pressure, relaxation, and metacognitive accuracy to explore how different psychological states may influence high school students' assessments of their future academic performance. Overall, students' prediction accuracy could be very different under high-pressure or relaxed conditions. For the future application situation, people will need to understand the discrepancy of decision making under different psychological situations.

Introduction

Academic pressure is a common issue and factor of pressure for high school students. Students may experience pressure from examinations, homework, grades, competition, and expectations from parents or teachers. Although some appropriate amount of pressure can motivate students, high levels of academic stress may negatively affect students' psychological health and academic functioning. Research has found that academic stress is associated with academic anxiety and burnout and is negatively related to academic self-efficacy in adolescents (Gao, 2023; Reyes et al., 2015).

Academic pressure refers to psychological pressure caused by academic demands and expectations. In contrast, relaxation refers to a psychological state with relatively low stress and physiological arousal. Relaxation can be supported by activities such as breathing exercises, mindfulness, and physical activities. A study of high school students found that a relaxation-response curriculum was associated with lower perceived stress and state anxiety (Foret et al., 2011).

Another important concept is self-efficacy. It refers to a person's belief that they can successfully complete a task or not. However, self-efficacy is different from metacognitive accuracy. A

student may believe that they can get a high score but still incorrectly predict their actual performance. Metacognitive accuracy refers to how closely a person's prediction matches their actual performance.

Research showed that students are not always accurate when predicting their future academic performance (Karaca et al., 2023). Some students may overestimate their performance even when they are confident in their predictions (Karaca et al., 2023). Therefore, understanding students' psychological states may help explain why some predictions of students are more accurate than others. This narrative review examines existing research on academic pressure, relaxation, and metacognitive accuracy. By synthesizing previous findings and identifying gaps in the current literature, it explores how psychological states may influence students' self-assessments. This leads to the research question: How does the accuracy of high school students' self-assessments of their capacity to handle future tasks differ between the psychological states of high academic pressure and relaxation?

Relationship between academic pressure and self-efficacy

Academic pressure can influence how students view their academic abilities. Research involving adolescents found that higher academic stress was connected with lower academic self-efficacy and greater academic anxiety(Erickson & Heit, 2015). This discovery may suggest that when students experience more academic pressure, they may feel less confident about their ability to succeed.

Not only for the academic pressure, other factors may also influence the relationship between academic pressure and self-efficacy. Gender and age may affect how students experience and respond to academic stress, while background may shape different family expectations for academic success (Steare et al., 2023; Geißler et al., 2015). Also, students with limited proficiency in the language of instruction may face extra academic challenges, which could reduce their confidence. Therefore, personal experiences should also be considered when examining the relationship between academic pressure and self-efficacy.

Academic pressure can also affect cognitive functioning. Stress and anxiety may cause students to focus more on possible failure and negative consequences. It can use cognitive resources that are needed for other functions, such as attention, working memory, and problem solving. As a result, students may have more difficulty evaluating their abilities objectively instead of subjectively.

It is especially important when students are in the situation that is required to predict their future performance. A student under high pressure may underestimate their ability because they are focused on the possibility of failure. On the other hand, some students may overestimate their ability because they feel confident that they can handle the tasks. So, high academic pressure may make accurate self-assessment more difficult.

Self-Efficacy and Metacognitive Accuracy

Self-efficacy and metacognitive accuracy are related but different concepts. Self efficacy answers the self-assessment question “Do I believe I can do this?” Instead, metacognitive

judgment answers the question, “How well do I think I will actually perform?” Metacognitive accuracy asks how close that prediction is to the student's actual performance.

For example, if a student predicts that they will score 90% on an exam, but actually the score is 70%, the student overestimated their performance. If another student predicts 72% and scores 70%, even though the second student had lower confidence, the prediction is much more accurate.

Research about students' academic predictions found that students’confidence does not always equal accurate self assessments (Geraci et al.,2023). Students may overpredict their future performance (Erickson & Heit, 2015) and their predictions can be influenced by their desired grades. Research examined the differences in the accuracy of prospective and retrospective confidence judgments, suggesting that the timing of self-assessment may also influence metacognitive accuracy (Siedlecka et al., 2016).

These findings are important for the research question because students' ability to accurately assess future tasks depend on their psychological state. If stress could affect how students process information, it could also affect how realistic is their assessment of their own future performance.

The Relationship Between Relaxation and Cognitive Functioning

Relaxation may have the opposite effect of pressure and stress(Jagiello et al., 2024). When students are relaxed, they may experience less anxiety with less stress distractions. It would allow students to focus more clearly on the demands of a task and have appropriate pressure which may benefit them in a healthy way.

Research using a randomized controlled trial and an experimental design, and incorporated physical activity and physiological aspects into student training. They found that a relaxation response curriculum improved perceived state anxiety, which refers to temporary feelings of anxiety experienced in a particular situation (Latino et al., 2025). Other researchers also found relaxation techniques such as progressive muscle relaxation (PMR), a technique that involves systematically tensing and then relaxing different muscle groups, which could be a good way to reduce stress.

Relaxation may also support the cognitive processes needed for self-evaluation. A relaxed student may have a better ability to consider the more subjective decision based on a more comprehensive perspective, such as previous performance, the difficulty, the amount of preparation needed, and the available time .

However, existing research does not directly prove that relaxation could make students' predictions more accurate. Most studies focus on stress or academic performance. So, the possible connection between relaxation and metacognitive accuracy still needs future investigation.

The existing research suggests a possible difference between high academic pressure and relaxation.

Under high academic pressure, students may experience stress and anxiety. These feelings can increase attention toward possible failure and reduce the cognitive resources available for objective self assessment. Students may therefore be more likely to underestimate or overestimate their ability to handle future tasks.

Oppositely, under relaxation, students may experience less stress and anxiety. This could allow students to focus more directly on the actual difficulty of a task based on their previous experience. As a result, their predictions may be closer to their actual performance.

A useful way to test this idea would be to ask students to predict their performance before they complete an academic task. After they have done the work, people compare their predicted performance with their actual performance.

For example:

Prediction accuracy = predicted performance compared with actual performance（Osterhage et al., 2019）

A smaller difference between predicted and actual performance would indicate better accuracy, while a larger difference would indicate poorer accuracy (Osterhage et al., 2019).

Researchers could compare this difference between a high-pressure condition and a relaxed condition. Measures of self-efficacy, anxiety, and perceived stress could also be collected to determine why students' prediction accuracy changes.

Conclusion

Academic pressure and relaxation may influence the accuracy of high school students' evaluation of their ability to handle future academic tasks. Research shows that academic stress is related to anxiety and lower academic self-efficacy. But at the same time, relaxation based on interventions can reduce stress and anxiety. Metacognitive research shows that students' confidence does not always accurately predict their actual performance.

Based on these findings, high academic pressure may make being accurate on self-assessment more difficult, because stress and anxiety can interfere with attention and cognitive resources. Relaxation may provide the psychological condition in which students can evaluate their abilities with less distractions. However, there is no current research that directly establishes that relaxation improves prediction accuracy.

A limitation of existing research is that many studies examine stress, anxiety, self-efficacy, or academic performance separately. Only fewer studies directly compare prediction accuracy under high-pressure and relaxed conditions, especially among high school students.

Future research could therefore measure both predicted and actual performance under different psychological states. Researchers could then compare the size of students' prediction errors and examine whether self-efficacy, stress, or anxiety explains the differences.

Understanding this relationship may help students become more aware and clear of their own abilities and get benefits from it such as making the right decision and planning for their future. Students need not only to perform academic tasks, but also to accurately understand what they are capable of doing.

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